

04/13/2011

Amendments to the Claims

A detailed list of all claims is set out below. Please editorially amend claim 4 as shown:

1. (previously presented and allowed): An apparatus for reducing the liquid content of a material comprising a mixture of solid particles and liquid, the apparatus comprising:

containment means to contain the material, and

means to apply pressure to the contained material therein;

the containment means being partly defined by at least one first sheet member comprising a first filtration membrane permeable to the liquid but impermeable to at least some of the solid particles contained within the material,

wherein the first filtration membrane comprises a woven textile having at least one conductive element woven into at least a part thereof to form first electrode; and

the containment means being further partly defined by at least one second sheet member comprising a second filtration membrane permeable to the liquid but impermeable to at least some of the solid particles contained within the material,

wherein the second filtration membrane comprises a woven textile having at least one conductive element woven into at least a part thereof to form a second electrode;

wherein, in use, the first and second electrodes are spaced from each other and in contact with the material to allow application of a potential difference across the material;

wherein said at least one conductive element of the first and/or second filtration membrane comprises a plurality of conductive weft elements; and

wherein the first and/or second filtration membrane further comprises at least one conductive warp element, in electrical contact with the conductive weft elements of the respective first/second filtration membrane, but woven in such manner as to be partly exposed on the surface of the respective first/second filtration membrane.

2. (previously presented and allowed): An apparatus according to claim 1 wherein the means to apply pressure acts to urge at least one first and at least one second sheet members towards each other, reducing the distance between them so as to apply hydraulic pressure to the material to be dewatered.

3. (previously presented and allowed): An apparatus according to claim 1 configured as a belt filter press comprising at least two belts,

wherein at least one first belt comprises said first filtration membrane and at least one second belt comprises said second filtration membrane.

4. (currently amended and previously allowed): An apparatus according to claim 3 configured such that the containment means defines a conduit with an input for material to be dewatered and an output for dewatered material, the apparatus comprising a means to apply pressure along the conduit, at least one said first belt comprising a first filtration membrane substantially along the length thereof, and at least one said second belt spaced apart from said at least one first belt in use to retain material to be dewatered therebetween, and to allow application of a potential difference, in use, across the material to be dewatered within the conduit.

5. (previously presented and allowed): An apparatus according to claim 4 wherein the means to apply pressure along the conduit acts to urge the at least two belts towards each other to induce a hydraulic pressure in the material to be dewatered therebetween, and is so arranged that this pressure is increased as the material passes along the conduit.

6. (previously presented and allowed): An apparatus according to claim 3 wherein each belt is disposed as a continuous belt around a plurality of pressure rollers and/ or guide rollers, each roller being an insulator at least on a contact surface thereof.

7. (previously presented and allowed): An apparatus according to claim 3 wherein the edges of each belt are provided with an insulating surface coating to permit the edges of opposing belts to touch without creating a short circuit.
8. (previously presented and allowed): An apparatus according to claim 3 wherein the first and second belts are woven belts, said conductive weft elements are disposed transversely to the respective belt, and wherein the or each conductive warp element is located toward one of both edges of the respective belt and extend longitudinally along the respective belt.
9. (previously presented and allowed): An apparatus according to claim 1 wherein at least one said first and/or second filtration membrane is a respective woven sheet material having a primarily non-conductive polymeric base structure.
10. (previously presented and allowed): An apparatus according to claim 9 wherein the conductive elements are elongate conductive elements comprising thread, tape, or wire.
11. (cancelled).
12. (previously presented and allowed): An apparatus according to claim 1, wherein the conductive elements comprised within at least one of the first and/or second filtration membranes comprise metallic elements coated in mixed metal oxide.
13. (cancelled).
14. (previously presented and allowed): An apparatus according to claim 1 wherein at least one of the first and/or second filtration membranes comprises polymeric material loaded with carbon.

15. (previously presented and allowed): An apparatus according to claim 1, wherein at least one of the first and/or second filtration membranes comprises a plurality of discrete conductive regions.

16-20. (cancelled).

21. (previously presented and allowed): An apparatus according to claim 7, wherein the insulating surface coating is hydrophobic.

22. (previously presented and allowed): An apparatus according to claim 8, further comprising an electrical supply system comprising projecting brushes linked to a power supply and caused to contact at least one said conductive warp element of the first and/or second belt.